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THE PLANT DISEASE REPORTER

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UNITED STATES DEPARTMENT OF AGRICULTURE

THE PLANT DISEASE REPORTER

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THE OFFICE OF MYCOLOGY AND DISEASE SURVEY

Volume XI June 1, 1927 Number 3

STEM RUST ON CEREALS

Texas and Ohio are the only states that have reported stem rust on wheat this season to the Survey.

Texas: The only stem rust so far reported is in the San Antonio Texas section. Stem rust in this area is generally slight and spotted on oats; on wheat it is slight but more uniform over the fields. Stem rust of wheat was first found on headed wheat at San Antonio on March 12. By March 26, when the wheat was in the joint stage, it had not become g general, but by April 23 it was prevalent as a generally slight infection on most wheat fields within a 25-mile radius of San Antonio. It is not known how much farther north the infection extends. (The Rust Reporter, May 2)

Ohio: Fully developed uredinia on Portage wheat near infected Berberis amurensis at Columbus, Franklin County - appeared earlier than usual. (J. W. Baringer, May 19)

STEM RUST ON BARBERRIES

Barberry infections up to May 2 are summarized in the following quotation from Number 1 of The Rust Reporter, issued by the Office of Cereal Crops and Diseases:

"Infected barberries have been found in Missouri, Iowa, Minnesota, Wisconsin, Illinois, Michigan, and Ohio.

"First to appear upon the scene were pycnia at Columbus, Ohio, on April 11. Aecia were fully developed on April 27, according to a wire from Mr. Baringer. On the same date, aecial infection was found at Maryville, Missouri, by Mr. Smith. Michigan and Illinois were only a day later; Mr. Reddy reported

rust on barberries in Ingham County, Michigan; and Mr. Bills found pycnia at Bement, Piatt County, Illinois. This interval gave Mr. Smith time to hunt up rust on a barberry in Iowa; he found it in Wayne County on the 29th. Also on the 29th, pycnia were found on a small bush near Afton, Washington County, Minnesota, by Mr. Melander. On April 30, Dr. Jackson and Mr. Walker discovered one spot of pycnial infection on a bush at Madison, Wisconsin.

"Compared with the first dates of barberry infection last year, these reports are from a week to ten days early. Baringer broke the 1926 record for Ohio by almost a month. However, when discounts are made for the facts that last year's infections were later than usual, and that there has been an abundance of rain, there remains very little difference in the dates of appearance of the rust. This little we shall accredit to the increasing diligence of the State Leaders and their persevering scouts."

Since that date, according to a statement in Number 2 of The Rust Reporter, May 12, infection was reported as follows: Nebraska, pycnia April 20, aecia May 7; Indiana, pycnia May 2; Maryland, aecia May 3; Kansas, aecia May 3; Kentucky, aecia May 7.

W. H. Davis reported that at Amherst, Massachusetts, the first pycnia were seen on May 15, and aecia on May 20. Infection is less than in former years.

CONDITIONS FAVOR LEAF RUST OF WHEAT

Virginia: All indications point to a leaf rust year. Flag leaves show heavy infection with the heads just emerging. Leaf rust of rye and leaf rust of barley also present but not severe. (Fromme, May 24)

Kentucky: Leaf rust is quite well established on wheat which is now in the boot, a small amount being on the upper leaves. No sign of black stem rust so far. (Valleau, May 20)

South Carolina: Infestation unusually severe this season. (Ludwig)

SEPTORIA LEAF SPOT OF WHEAT

Kentucky: Septoria is causing quite extensive injury on the lower leaves of wheat on the Experiment Station farm, Lexington, Kentucky. (Valleau, May 20)

OAT SMUT BAD IN THE CAROLINAS

North Carolina: What appears to be an epidemic of oat smut is present in North Carolina this season, as indicated by the observations of several members of the Department of Plant Pathology this year. In a recent trip through the Piedmont Section on May 6 and 7, no fields were observed by the writer which were entirely free from smut, whereas many were observed with a relatively large proportion of the plants affected. In some of the fields examined some areas showed more than fifty per cent infection. After several years with very little smut, farmers have come to give less attention to oat smut control measures, which accounts for the outbreak of the disease under conditions favorable for smut. (Fant)

South Carolina: Heaviest infection in history of state so far as available records show. Many fields running above 90 per cent infection. The average for all counties in eastern half of state is about 38 per cent. Almost 100 per cent control in the few instances where seed was treated. (Moore)

ALFALFA DISEASES IN IOWA

W. A. Archer reports as follows concerning alfalfa diseases as he has observed them this season in Iowa.

Winter injury

"Evidence of winter injury has been found in practically all fields visited in course of trips through the southwestern and northeastern quarters of the state. A 1 to 10 per cent reduction in stand was evident even in 1 and 2-year old fields. In these fields individual plants revealed crowns with decayed centers. The majority of the fields were 5 to 7-years old and in these the reduction in stand, in most cases, varied from one-third to one-half. In general the situation may be summed up by stating that the older the field the greater the reduction in stand.

"In two localities in southwestern Iowa two varieties of alfalfa were located which were reputed to have withstood winter temperatures during the past 15 to 20 years. One variety observed in Cass County was planted 15 years ago from seed secured locally. The name of the variety is unknown. An invasion of gophers destroyed the original field recently. However, a few scattering plants remain and an attempt will be made to secure seed from these in the hope of securing a variety which is adapted to Iowa conditions.

"The other variety, known locally as Bebensee, was located in Pottawattamie County. The seed was introduced 18 years ago from Germany and was secured near the source of the original strain of Grimm. This so-called Bebensee variety has withstood winter conditions and in several instances the crop has been harvested for seed. Consequently a number of local farmers have fields of this variety. Plans were made to secure seed so that the variety could be tested at Ames and perhaps in other states.

"Counties in which crown rot was definitely located: Polk, Montgomery, Cass, Mills, Pottawattamie, Harrison, Crawford, Carroll, Greene, Grundy, Black Hawk, Clayton, Marshall, Story, Dubuque, and Hardin."

Bacterial wilt (Aplanobacter insidiosum)

"Located definitely in Cass, Mills, Harrison, Greene, Grundy, Pottawattamie, Harrison, Crawford, and Carroll Counties. In Cass County a 6-year old field planted with South Dakota certified seed of Grimm, Cossack, Dakota No. 12 was practically a total loss. In another field Nebraska Common had suffered from wilt and winter injury to the extent of two-thirds of the stand. In other fields, especially in the southwestern part of the state, infected plants were found frequently. In general, however, the majority of the plants were affected by winter injury and only comparatively few by wilt."

Downy mildew (Peronospora trifoliorum)

"About 0.1 per cent of plants infected in a field in Montgomery County, May 3. In other fields over the state, however, only an occasional infected plant was encountered."

VIOLET ROOT ROT OF ALFALFA REPORTED FROM VIRGINIA

"Specimens received from Appamattox, March 11. Reported as occurring in scattered spots in a field of 5 acres." (Fromme)

COTTON SEEDLING DISEASES IN GEORGIA

"Cotton seedling infection by Bacterium malvacearum appears to be unusually abundant this year. Some counts show approximately 1 per cent with infected cotyledons.

"Anthracnose infection (Colletotrichum gossypii) is also unusually abundant on the seedlings." (Higgins, May 24)

WILDFIRE AND BLACKFIRE OF TOBACCO AS REPORTED FROM MARYLAND, VIRGINIA, AND KENTUCKY

Maryland: Out of 16 tobacco plant beds examined in Calvert County, May 10, 11 were found containing plants infected with wildfire and 5 were free as far as could be determined by casual examination. Most of the plants at this time were in the five-leaf stage, and it would appear that, if weather favorable for the organism continues, the disease will do much damage. Two beds were practically destroyed by the disease, one was generally infected, and the others, for the most part, showed small spots containing diseased plants. (Jehle, Meier, & Haskell)

Virginia: Blackfire was found in plant beds in Halifax and Pittsylvania Counties during the week of May 15. The abundant rains have given the disease a fine start and we will probably have more loss than for several years past. (Fromme, June 1)

Wildfire began to appear about 3 weeks ago as leaf spot and damping-off in plant beds on a farm near Beulahville, King William County. Has destroyed one bed and half of another. First report for 1927. Reported by County Agent, J. D. Hutchesan. (Fromme, May 24)

Kentucky: Complaints of injury from blackfire in plant beds appears to be quite general. (Valleau, June 1)

POTATO STAND REDUCED IN VIRGINIA

"Seed piece rot accompanied by little tuber formation or spindling sprout has greatly reduced the stand in Tidewater Virginia. The situation is far worse in Prince Edward Island seed than in that from other sources." (McWhorter)

POTATO SEED TREATMENT IN WISCONSIN

"More potato seed treatment demonstrations have been held this year than ever before. The hot formaldehyde method of treatment is receiving cordial support from county agents and potato growers. One of the large seed companies in Sawyer County has treated over 2,500 bushels." (Vaughan, June 1)

OTHER POTATO DISEASES

Rhizoctonia

South Carolina: Heavy infections in practically all fields. Losses range from 3 to 10 per cent. Average loss about 5 per cent. (Moore, June 1)

Black leg (Bacillus phytophthorus)

Virginia: The first appearance of this disease in the Tidewater Section was about May 12. The only severe outbreaks so far observed were in fields following corn. (McWhorter)

Early blight (Alternaria solani)

Georgia: Very common and severe in South Georgia, most of the leaves being killed. It is difficult to separate the damage due to early blight from that due to drought and southern root rot (Sclerotium rolfsii). (F. Van Haltern, May 25)

BEAN DISEASE SURVEY IN SOUTH GEORGIA

"The first survey on beans in South Georgia was made April 5 when the crop in general was only from one to two weeks old. The following diseases were found: Root rots caused by Sclerotium rolfsii, Fusarium martii-phaseoli, and Rhizoctonia solani. On April 12 another survey showed a high increase in S. rolfsii with Macrophoma blight showing up in its early stage. At this time one two-acre field showed at least 10 per cent infection. A third survey on April 18 showed the Macrophoma disease in its height of development. About 50 per cent of the fields were affected by that disease, varying from only a trace to 50 per cent plant infection. Mosaic was most prominent at the time of the third survey, varying from none to as high as 90 per cent plant infection. The life of the crop was cut short due to an unusual drouth. Yet S. rolfsii seems to continue to thrive, while the remainder of the diseases are less prominent. S. rolfsii this year caused more damage than any other organism." (O. C. Boyd, May 23)

GEORGIA WATERMELON AND CANTALOUPE DISEASES

Gummy stem blight

"First watermelon disease of any kind to show up this year in South Georgia was gummy stem blight, observed on May 19 in Colquitt County. Two fields showed the disease. No wilt or anthracnose has

yet appeared. The crop in general has been laid by with melons varying now from one to twelve inches in length. If the drouth continues into June there will likely be very little damage from anthracnose." (O. C. Boyd, June 1)

Leaf blight (Macrosporium cucumerinum)

"First observed April 6 in one field at Valdosta on cotyledons and rough leaves of plants having only one or two rough leaves. On May 18 infection was quite general though the spots were quite small in the field where first observed and in two other fields near Valdosta. Some fields were still free from infection. No leaf blight was found at Sale City, Sylvester, and Tifton. The dry weather is holding cantaloupe diseases in check. (F. Van Haltern, May 25)

DOWNY MILDEW OF SPINACH

New York (Suffolk Co.): Spinach downy mildew, while present in many fields, has done little damage. (J. M. Sinden, New York State Col. Week. News Letter, May 23)

Virginia: Again this year, as in 1926, there have been a few outbreaks of mildew, which disease we generally consider a fall trouble. We are planning breeding experiments against it this fall and solicit seeds or suggestions that might be useful. (McWhorter)

TOMATO BACTERIAL CANKER FOUND IN THE SOUTH

Specimens from the field described in the following report from Georgia were sent by O. C. Boyd to Miss Mary K. Bryan of the Laboratory of Plant Pathology. Miss Bryan states that the disease is the bacterial canker (Grand Rapids disease) due to Aplanobacter michiganense, which has not been found previously in the Southern States. It may be present in other localities, but overlooked. A good description of the symptoms was given by Miss Bryan in The Plant Disease Reporter, Volume 8, pages 73-74, (Sept. 1, 1924). "The principal observation made was in a 500-acre planting of Marglobe in Coffee County. The percentage infection seems to be more or less uniform over the entire planting and is most prominent in the higher and drier places in the fields. Many plants have made little headway in development since being transplanted, while the unaffected plants have fruits ready for shipping. In the lower and damper areas, the symptoms have been delayed until during the past ten days. Full-sized plants with fruit are now going down in the damper regions of the fields. About half of the acreage has never been planted to tomatoes before. Probably around 4 or 5 per cent of the plants are affected." (O. C. Boyd, June 1)

OTHER VEGETABLE DISEASES

Root rot of snap bean caused by various fungi.

South Carolina: Severe throughout coastal section. Infections noted from 5 to 50 per cent. Losses about 10 per cent. (Moore, June 1)

Downy mildew of lettuce caused by Bremia lactucae.

Virginia: Found at Blacksburg, May 16, on both wild and cultivated lettuce. (Fromme, June 1)

Downy mildew of onion caused by Peronospora schleideni.

Wisconsin: Specimens received from Brown County, Wisconsin, under date of May 21. Said to be severe on winter onions. I have no record of such an early occurrence of this disease before. (Vaughan, June 1)

Black leaf spot of cabbage caused by Alternaria brassicae.

Georgia: Very abundant in March and April in a field of seedlings being raised for shipment north. The field, 3 or 4 acres, received water by the overhead system. Cankers were severe on the stems causing stunting and in many cases the death of the seedling. Spots were also abundant on the leaves. (F. Van Haltern, May 25)

Downy mildew of cabbage caused by Peronospora parasitica.

Georgia: Abundant in fields of seedlings being grown for shipment north. Common about Tifton and Valdosta the latter part of March and in April. The extreme dry weather tended to keep it down but nevertheless most of the lower leaves were blighted. These fields contained 10 to 15 or 20 acres. The downy mildew was also found on turnips being grown for shipment at Valdosta. (F. Van Haltern, May 25)

APPLE SCAB - REPORTS ON PRIMARY INFECTION

Eastern Massachusetts: Primary infection of apple foliage occurred during rainy period of May 4 to 6. The pink spray had already been applied. Mature spores found April 30 for first time. Primary discharge occurred during a shower of one hour's duration at noon, May 2, but foliage was dried off during fair weather of the afternoon. The foliage was dry by 4:00 P.M. Further primary infections occurred during rainy period of May 9 to 11. (Guba, May 12).

Western Massachusetts: I have been unable to locate 1927 scab infection at Amherst, up to this time, May 13. (W. H. Davis)

New York: (Reports from New York State Col. Agr. Depts. Pl. Path. & Entom. Weekly News Letter, May 23)

Dutchess Co.: Apple scab leaf infection can be found in most sections of the county. It was first observed on Monday, May 16. (E. E. Frane)

Erie Co.: Scab infection has occurred in some localities namely, Brant and North Collins. (M. N. Taylor)

Niagara Co.: The first infection of apple scab was found on May 19. It has been found since that date in several orchards. Where no treatments have been put on this year the infection is rather severe. (G. E. R. Hervey)

Orleans Co.: Apple scab is beginning to appear. (R. G. Palmer)

Ulster Co.: Scab has not been found though some leaves on McIntosh found today looked suspicious. (A. M. Boyce)

Virginia: First lesions on leaves were observed at Blacksburg May 3 and at Crozet May 10. Fruit lesions found at Staunton during week of May 15. The indications point to abundant infection in southwestern Virginia and probably in parts of the Valley and Piedmont. (Fromme, June 1)

The first scab lesions were noted on unsprayed leaves of old Winesap on May 16. These lesions were of such nature and development that the first appearance of the disease can be dated back to approximately May 12. The amount of infection on unsprayed trees indicates possibilities of a very slight infection this year. However, the weather conditions are ideal for infection and if these conditions continue, secondary infection may be rapid and severe. (Schneiderhan, Report of Winchester Laboratory, May 22)

Kentucky: Scab infection on leaves is very severe in the Experiment Station orchard this spring. Rust infection is also heavier than usual. (Valleau, June 1)

Ohio: Apple scab is occurring in epidemic form in a number of fruit sections in Ohio. The disease is particularly difficult to check, in that ascospores continued to shoot from about the delayed dormant stage of the tree through to the petal fall, and the weather has been very favorable for the fungus throughout this entire period. (H. C. Young, May 19)

Illinois: Very severe in western Illinois. Almost continuous rains made it impossible for growers to get their orchards sprayed and high winds made dusting difficult.

Very little scab has developed in southern Illinois although weather conditions have been ideal. No overwintering perithecia could be found this spring in southern Illinois orchards. (H. W. Anderson, June 1)

Wisconsin: Continued rains have been exceptionally favorable for spore discharge and early infection. (Vaughan, June 1)

Iowa: Mature ascospores found in abundance on overwintered leaves at McGregor in Clayton County, May 19. In the opinion of Harry Nichols, extension horticulturist, the dry season last year would tend to reduce the amount of inoculum this spring. However, this would be offset by leaf infection occurring late in the season of 1926 when heavy rains were experienced over the state, thus there should be an abundance of inoculum. (Archer, June 1)

BLIGHT OF PEARS AND APPLES

Illinois: I have just returned from a trip through southern and central Illinois. I find fire blight almost entirely absent from all pear orchards. During 1925 and 1926 with extremely dry springs we had severe outbreaks. The spring of 1927 has been the wettest on record with no fire blight. Does the explanation lie in the absence of insects visiting the flowers and general absence of sucking insects this year? Oozing cankers on apple are rather common at this time but they were not active a week ago.

No fire blight (twig and blossom blight) on apples in central and southern Illinois. Cankers on Willow Twigs in western Illinois started development about May 15. As in the case of pears it is hard to understand why fire blight which has been very prevalent the last two springs (very dry) is absent this spring (very wet). (H. W. Anderson, June 1)

Wisconsin: Specimens on pear received from Green County under date of May 20. Continued wet weather has been a factor in the early appearance of this disease. (Vaughan, June 1)

CEDAR RUST OF APPLE

Virginia: Spore discharges were noted on May 10 and 14. The first cedar rust lesions on York leaves were found May 10. (Schneiderhan, Report of Winchester Laboratory, May 15)

Illinois: In southern Illinois few cedar apples had developed due to the dry summers during the past two years. As a result very little rust was observed on the apple trees. In central Illinois where conditions were more favorable large numbers of cedar apples are to be found and cedar rust is common where the orchards are near cedars but in this section few cedars are to be found. (H. W. Anderson, June 1)

POWDERY MILDEW OF APPLE IN NEW YORK

New York: (Reports from New York State Col. Agr. Depts. Pl. Path. & Entom. Weekly News Letter, May 23)

Niagara Co.: Powdery mildew of apple was noted in one Baldwin orchard. (G. E. R. Hervey)

Monroe Co.: Powdery mildew was found on Baldwins on May 18. (R. C. Coombs)

PEACH LEAF CURL

New York: (Reports from New York State Col. Agr. Depts. Pl. Path. & Entom. Weekly News Letter, May 23)

Columbia Co: Peach leaf curl is showing up to some extent. (A. B. Buchholz)

Niagara Co.: One leaf showing peach leaf curl was found on May 20. (G. E. R. Hervey)

Orleans Co.: Peach leaf curl is conspicuous by its absence. Some discoloration of new growth has been found where oil sprays were used this spring but as yet no serious injury has been observed. (R. G. Palmer)

Dutchess Co.: Peach leaf curl is general where the dormant spray was not applied. (E. E. Franc)

Orange Co.: Peach leaf curl is fairly common, many growers having neglected to apply a dormant spray or delayed too long to be effective. (W. E. Blauvelt)

Virginia: Common in northern Virginia. (Schneiderhan, Report of Winchester Laboratory, May 15)

North Carolina: Peach leaf curl is present in greater abundance this season than it has been during the past five or six years. (Fant, May 21)

South Carolina: First observed March 17. Probably more severe than usual, but not many complaints received. (Ludwig, June 1)

Ohio: Peach leaf curl is abundant in southern Ohio and probably will be throughout the state. It is the first epidemic of this disease we have had in five years. (H. C. Young, May 19)

Illinois: This has been the worst leaf curl season ever experienced in this state. The unusual feature has been an apparent secondary infection. Bordeaux oil emulsion has proven unsatisfactory as a dormant spray. Copper-sulphate oil emulsion has given perfect control, especially when used in the spring before the buds had burst (but after the first swell). Lime-sulphur in the fall usually gave good results. (H. W. Anderson, June 1)

PEACH BROWN ROT

North Carolina: Brown rot is beginning to appear in the Piedmont to a considerable extent on poorly sprayed or unsprayed fruit. While rainfall during the spring months has not been above the average, there was considerable injury to fruit blossoms by a late cold spell, which was followed by an unusual amount of cloudy weather during April. These factors appear to have been very favorable for brown rot infection of the blossoms with a subsequent and recent spread to the fruit. (Pant, May 21)

South Carolina: Apothecia in abundance collected by Professor Rosenkrans locally February 26 to March 7. Peach trees were in bloom at about that time. (Ludwig, June 1)

BACTERIAL SPOT OF PEACH

Georgia: I have just completed a thorough examination of the local orchards that were so severely affected with bacterial spot a year ago and have found very little injury. A few leaf spots were found but no twig or fruit infection.

This seems to support the suggestion that the severity of attack last year was in part due to the condition of the trees following the severe drought of 1925. Apparently there is no lack of infective material this year. Infections were found on several half-grown leaves in the Station orchard on March 25 and a few new spots have been found following each rainy period since that time, yet the damage is very slight. (B. B. Higgins, May 24)

Illinois: Bacterial spot promises to be the most serious disease of peaches in southern Illinois. It is developing very rapidly and already causing serious defoliation in many orchards. Combined with natural leaf drop it has caused all old leaves to fall in some orchards. It is found this year notably on Elberta and Hale varieties but also on Edo and Carmen which are usually resistant in this region. (H. W. Anderson, June 1)

PEACH TREES DYING IN ILLINOIS FROM WINTER INJURY

"Large numbers of peach trees are dying in the southcentral part of Illinois. Following a dry summer excessive rains fell during August and September, starting new growth on fruit trees and leaving the ground thoroughly soaked throughout the winter. Temperatures from 7° to 15° during January probably caused the death of the trees. Most of the trees in low ground on water-soaked areas were killed." (H. W. Anderson, June 1)

PECAN SCAB INFECTION LIGHT IN SOUTH GEORGIA

"The unusually dry weather prevailing during April and May held pecan scab infection in South Georgia down to a minimum, even on the more susceptible varieties. There has been only one important infection period, that occurring when the leaves were just expanding. Low primary leaf infection should favor the grower in preventing nut infection with either dust or spray even though the months of June and July are conducive for the development of the disease. Growers with varieties susceptible to scab are becoming more interested in dusting as a protection measure. A few in the South Georgia belt have purchased dusters for use this year, while the majority are waiting for more experimental data on the effectiveness of dusting. Growers in general are quite reluctant in purchasing sprayers due to the difficulty and impracticability of spraying large tracts of pecans." (O. C. Boyd, May 23.)

A NEW DISEASE OF SWEET PEAS

What seems to be the first official report of the fungus Cladosporium album Dowson on sweet pea in the United States has been received with specimens from Dr. E. F. Guba of the Market Garden Field Station of the Massachusetts Agricultural College, Waltham, Mass. Doctor Guba found the disease prevalent in a large greenhouse devoted to sweet peas at Reading, Mass., during the latter part of April. The grower indicated that this was his first experience with this leaf spot. A neighboring grower, however, stated that he had observed it as early as the fall of 1922. These growers have observed that sulphuring the steam pipes and careful greenhouse management are very helpful in checking spread.

The specimens submitted were leaflets showing tan or buff colored, circular and irregular shaped spots varying from 2 to 20 mm. in diameter and often coalescing into large necrotic areas involving all or a large portion of the entire leaflet. Spots showed a tendency to be water-soaked about the margins. A white fungus answering to the description of Cladosporium album Dowson was fruiting on both sides of the leaf.

This disease and fungus have recently been described by W. J. Dowson (1 and 2) of the Wisley Laboratory in England. His papers seem to be the only ones on the subject. It was first brought to his attention in July, 1922 and again the following year on both out-door and hot-house sweet peas. According him the fungus is like Cladosporium herbarum (Pers.) Lk. except that it is whit He recommends sulfur dust as a control.

1. Dowson, W. J. A new disease of sweet peas. Gard. Chron. III, 75: 10. Jan. 5, 1924.

2. _____ A new disease of sweet peas. Jour. Roy. Hort. Soc. 49: 211-221. 1924.

ROSE CANKER AND DIE-BACK PREVALENT

Numerous reports of brown canker (Diaporthe umbrina Jenkins) and Coniothyrium canker have come to attention this spring. In rose gardens and greenhouses about the city of Washington much damage has been, and is continuin to be done, and from other sections, particularly further south, specimens and reports have been received. The American Rose Society has issued a post card warning to its members calling their attention to the serious damage that is being done this spring and advising eradication of diseased parts and spraying with Bordeaux, or organic mercury compounds.

Jenkins, Anna E. Brown canker of the rose. Amer. Rose Annual 1927.